

REMARKS

Claims 1-8, 12 and 13 are rejected; claims 14 and 15 are objected to as being allowable if rewritten in independent form; and claims 9-11 are withdrawn from consideration as being directed to a non-elected invention.

Withdrawn independent method claim 9 was previously amended to include all of the limitations of device claim 1. If device claim 1 is found to be allowable, Applicants respectfully request rejoinder of withdrawn method claims 9-11 pursuant to MPEP § 821.04.

Review and reconsideration on the merits are requested.

Claims 1, 2 and 4-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. US 2006/0094140 A1 to Inoguchi et al in view of U.S. Patent Application Publication No. US 2003/0160253 A1 to Udagawa.

Inoguchi et al was cited as disclosing a pn-junction compound semiconductor light-emitting device including a stacked structure (2-7, 16-18, 20 and 21) including a light-emitting part 5 composed of aluminum gallium indium phosphide, the light-emitting part comprising a light-emitting layer 7, a lower clad layer 6 and an upper clad layer 17 and a light-permeable substrate 1 for supporting the stacked structure (citing Figs. 1-3 and paragraphs [0021]-[0024] and [0031]).

The Examiner relied on Udagawa as disclosing a pn-junction compound semiconductor light-emitting device comprising a stacked structure (102-106) including a conductive boron containing Group III-V compound semiconductor layer 103 formed on light-emitting part 104, wherein the light-permeable substrate 101 is joined to the stacked structure (102-106) through the boron containing Group III-V compound semiconductor layer 103.

The reason for rejection was that it would have been obvious to join the stacked structure of the device of Inoguchi et al through a boron containing Group III-V compound semiconductor layer as disclosed by Udagawa so as to provide a semiconductor layer having excellent surface flatness and so as to allow the light-emitting device to exhibit high emission intensity (citing paragraphs [0039] and [0074] of Udagawa).

The rejection should be withdrawn because Inoguchi et al published May 4, 2006 and based on an application filed October 31, 2005 *subsequent to* the March 28, 2005 PCT filing date of the present application is not available as prior art against the claims of the present application.

Further, it seems that the Office Action may have somewhat mischaracterized both Inoguchi et al and Udagawa. Applicants note as follows.

In Inoguchi et al, the transparent substrate is the p-type GaP substrate 23 that is transparent to light from the emitter layer as described in paragraph [0074], and not GaAs substrate 1 which is part of the first wafer 22. Also, layer 5 of Inoguchi et al is a buffer layer. Buffer layer 5 is not part of a light-emitting part as suggested by the Examiner since it is outside cladding layer 6.

The GaP layer is bonded by pressing to the mirror finished contact layer 20, which is formed on the upper clad layer through intermediate layer 18. That is, the light-permeable substrate is not the glass substrate and the light-permeable substrate is not bonded directly on the upper cladding layer.

In Fig. 2 of Udagawa's published application, substrate 101 is single crystal Si substrate as described in [0058], and is not a light permeable substrate as suggested by the Examiner. In addition, Udagawa's light emitting device has a structure characterized by stacking an amorphous

BP buffer layer 102, an n-type BP lower clad layer 103, n-type GaInN light emitting layer 104 and p-type BP upper clad layer, in this order, on the Si-substrate. Udagawa does not disclose that its light emitting device has a conductive boron containing Group III-V compound semiconductor layer formed on the light emitting part. This is because the boron containing Group III-V compound semiconductor layer is a light emitting layer.

Claims 3 and 7-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoguchi et al in view of Udagawa.

As described above, Inoguchi et al is not available as prior art against the claims of the present application. Further, Udagawa does not disclose that the conductive layer composed of a boron containing Group III-V compound semiconductor is formed outside the light emitting part for bonding the light permeable substrate to the light emitting part.

Withdrawal of all rejections, rejoinder of method claims 9-11 and allowance of claims 1-15 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Abraham J. Rosner
Registration No. 33,276

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: September 11, 2009